

THE
MINERAL WATERS
OF
VALS,

ONE OF THE MOST USEFUL AND POPULAR OF THE
MINERAL WATERS OF FRANCE,

SPECIALLY CHARACTERISED BY
ITS LIGHTNESS, PIQUANT FLAVOUR, ITS EFFERVESCENT AND
SPARKLING PROPERTIES, AND BY THE
AMOUNT OF FREE CARBONIC ACID AND VARIOUS BICARBONATES
IT CONTAINS.

RECOMMENDED AND REPORTED ON BY
BOUCHARDAT, DURAND-FARDEL, PETREQUIN,
SOCQUET, BERTHIER, ALIBERT, BRUN, DORVAULT,
ARAN, DUPASQUIER, OSSIAN HENRI,
ETC., ETC.

Agents for the United Kingdom:
E. GALLAIS & CO., 27, MARGARET STREET,
REGENT STREET, LONDON, W.

DEPOT FOR ALL KINDS OF NATURAL MINERAL WATERS.

Information.

The Waters of Vals are imported in original cases of 50 quarts ; each bottle bears a yellow label with the analysis and a trade mark to prevent inferior Springs being substituted.

PRICE.

Original case of 50 quarts . . . 38s.

In less quantities 12s. a dozen.

To be had at the chief Depot for the United Kingdom :

**E. GALLAIS & CO., 27, MARGARET STREET,
REGENT STREET, LONDON, W.**

(Depot for all Kinds of Natural Mineral Waters, Wines, &c.)

AND OF ALL CHEMISTS, DRUGGISTS, ETC.

THE
MINERAL WATERS
OF
VALS.

“I do not know of any water so rich in bi-carbonate of soda as that of Vals, whilst the proportion of carbonic acid is also in excess.

“Its component parts resemble those of Vichy water.”

DURAND-FARDEL,

“Therapeut. of Min. Waters,” page 165.

“Dict. Min. Waters,” art. *Vals*.

“We should not be indifferent as to whether a mineral water is effervescent or not, and, *cæteris paribus*, should give a preference to an acid gaseous one.”

PÉTREQUIN AND SOCQUET,

“Practical Treat. on Mineral Waters,” p. 183.

“The influence the waters of Vals exercise over the digestive functions, from the very first day of use, is most remarkable, and in fact their effects are so decided, that they are almost marvellous.”

DUPASQUIER,

“Practical Guide to the Waters of Vals,”
page 19.

LONDON:

E. GALLAIS & COMP., 27, MARGARET STREET, REGENT STREET, W.

DEPOT FOR THE NATURAL MINERAL WATERS OF VALS.

DEAR SIR,

The Vals Waters are known to the whole medical world, and there are but few French practitioners who have not tested their remarkable properties. They have not, however, been introduced to popular notice, or sought any adventitious aid to establish their reputation, but owe their fame to the cures wrought by their agency; results clearly established by my confrères.

I know that it is said "good wine needs no bush," and though I wish to avoid exaggerated praise of that which is good, yet I must affirm from my experience and practice of nearly thirty years at the Wells, that medical men who have not tested the Vals Waters cannot have any idea of their action, or of the benefits that would result from their use in practice.

I do not desire to be taxed with partiality, or to be told, *Laudat venales qui vult extrudere merces*, but happily disinterested eminent medical authorities support and confirm me in my opinions. I have but to mention the names of Dupasquier, Pétrequin, Socquet, Herpin, Patissier, Bouchardat, etc., etc. Their appreciation of the Waters is as impartial as well-founded, and practitioners could not find better guides for the daily use of the Vals Waters.

They are not interested, as I have said, but speak the language of truth and of science, and their words are re-echoed by the medical profession.

Believe me with every consideration,

Yours, etc., etc.,

TOURETTE.

THE MINERAL WATERS OF VALS.

ACCORDING to tradition handed down to us, these springs were discovered in 1602, by a fisherman named Brun Martin, who was cured by the use of the water, from some affection, the nature of which we are not told.

In 1609, Claude Expilly, an illustrious and learned member of the Senate, who a year before had undergone the operation of lithotomy, visited Vals, fearing the recurrence of his disease.

The waters cured him in such a speedy and radical manner, that, to testify his gratitude, he published a report and two short poems, in which he no doubt exaggerated their efficacy.

He was counsellor of the King at the Parliament of Grenoble, underwent lithotomy at the age of forty-seven, and died twenty-eight years after his return from Vals.

Dr. A. Fabre published the first work on the waters in 1657. His treatise is distinguished by accurate observations, shrewdness, and originality.

How times are changed since Louis XV. was King! I have letters addressed to M. Champanhet, proprietor of the springs, by distinguished personages at his court: amongst others from Cardinal

Fleury, Count de Cossé, the Marquis de Rouilly, etc., etc. From these interesting records, I find that the cost of twelve bottles of Vals Water, delivered at Versailles, was seventy-one pounds ! At the present time we can buy a dozen in Paris for the moderate sum of eight shillings.

All the Mineral Waters of Vals are clear, cold, and limpid, with an alkaline reaction ; their flavour, tart and piquant, due to the predominance of carbonic acid, with which they are excessively charged, and which can be seen rising to the surface in large sparkling bubbles.

Numerous observations, made at different periods of the year by independent investigators, have established, that the temperature of all the springs remains nearly always the same ; varying from 13 to 15 centigrade (55° to 59° F.)

They possess *the important advantages of allowing of carriage to great distances without undergoing alteration or deterioration, and keep for an indefinite period.*

To give an idea of the importance of these waters, I may mention the names of some of the distinguished chemists, who have engaged in their analysis, as: Longchamps, Berthus, Alibert, Aran, Guibourt, Dupasquier, Brun, Chevalier, Dorvault, Henri, Bouis, etc., etc.

From their elaborate and impartial reports we learn : the Mineral Waters of Vals, *a.*, are alkaline; acidulous, gaseous, and ferruginous ; *b.* Their action is manifold ; *c.* They resemble very closely the Waters of Vichy ; *but the excess of carbonic acid* contained in the Waters of Vals, renders them more *palatable*

and easier of digestion than those of Vichy. The accompanying table will show this at a glance.*

ANALYSIS BY M. OSSIAN HENRI.

	SAINT JEAN.	PRÉCIEUSE.	DÉSIRÉE.	RIGOLETTE.
Free carbonic acid	0.425	2.218	2.145	2.095
Bicarbonate of soda	1.480	5.940	6.040	5.800
" " potass ...	0.040	0.230	0.263	0.263
" " lime	0.310	0.630	0.571	0.259
" " magnesia	0.120	0.750	0.900	0.259
" " iron	Manganese 0.006	Manganese	Manganese	Manganese
" " lithia ...	Very per- ceptible	Very per- ceptible	Very per- ceptible	Very per- ceptible
Chloride of sodium	0.060	1.080	1.100	1.200
Sulphate of soda and lime	0.054	0.185	0.200	0.220
Silicates.....	0.070	0.060	0.058	0.060
Triple phosp. alumen ...	0.011	0.060	0.058	0.060
Iodine	Ind.	Ind.	Ind.	Trace
Arsenites	Perceptible	Ind.	Ind.	Trace
Organic matter.....	Little	Trifling	Little	Little
	2.151	8.885	9.142	7.826

The eminent chemist Dupasquier says: "If we look at the table showing the results of chemical analysis and consider the predominant constituents of these mineral waters, we must arrive *à priori* at the necessary conclusions that they must act most *beneficially on the digestive organs*, strengthen their *physiological action*, and produce a powerful *alterative effect* in abdominal derangements, whether of short or long duration.

"These waters must also be eminently diuretic and

* I must here make an important observation; I am speaking of the waters which are bottled for export. The springs about which I am writing are numerous and potent, their principal mineral constituents, though identical, vary proportionately in each, thus allowing the practitioner to graduate the dose.

prove particularly useful in cases of gravel requiring the employment of alkaline drinks.

“The excess of carbonic acid and the considerable proportions of bicarbonate of soda evidently give the Waters of Vals these varied properties, whilst the bicarbonates of lime and magnesia, which have a similar effect, assist in the good work.

“The sulphate of soda and other neutral salts are fortunately present in too small a quantity to excite *purgation*, and cannot *have* any other result but to *promote the secretion of urine*, even when the waters are taken in large quantities.

“The bicarbonate of iron is not in such a large proportion as to over-stimulate the organism, but yet *its proportion is sufficient* to counteract general debility and to recruit the powers of life when exhausted by tedious illness, fatigue, and over-anxiety, improper diet, and bad hygienic conditions.

“Their good effect must be assisted by the *restoration of the digestive action*, under the influence of the carbonic acid and alkaline bicarbonates.

“The *iron and manganese*, associated as they are with an excess of carbonic acid, must render these mineral waters of service, in inducing a return of the *periodic uterine discharge*, and in restoring its proper *physiological action*.

“The constituents of the Vals Waters are most remarkable, whether we consider the elements found in solution, or the association of *so many therapeutical agents in such happy relative proportions*, that they seem to have been fortuitously arranged so as to obtain the best possible results.” (“The Waters of Vals.”)

The opinions of Dupasquier are confirmed by the crucial test of practical medical experience.

MM. Pétrequin and Socquet also tell us : "The Vals Waters are *indicated* in stomachic derangements, jaundice, obstructions of the liver and spleen, chlorosis, leucorrhœa, red gravel, and catarrh of the bladder. Alibert reports the cure of long-standing hæmaturia, and recommends them in scurvy and passive hæmorrhages.

"We have experienced good effects from their use in chronic vomiting, atonic amenorrhœa, obstinate intermittent fevers, etc., etc." ("Practical Treatise on Mineral Waters," p. 30).

M. Ruelle, an honourable and learned ex-inspector, says with authority and precision :

"The Waters of Vals have an essentially tonic effect, and are indicated in all diseases characterised by weakness, languor, and atony : they act by giving increased activity to the functions of circulation and absorption, but principally to digestion.

"They are useful in cases of stomachic weakness, amenorrhœa, chlorosis, chronic inflammation, congestion of liver, spleen, kidneys ; whilst they are equally necessary in affections of the urinary organs, red gravel, chronic catarrh of the bladder, etc., etc."

The Waters of *Saint Jean*, *Précieuse*, *Désirée*, and *Rigolette* are mineralised (see analysis) by the *bicarbonates of soda, lime, magnesia, iron, manganese*, and *chloride of sodium*, held in permanent solution by an *excess of carbonic acid*.

Owing to this chemical constitution, *the waters of these wells are superior* to those of Vichy and other waters in daily use.

To prove this *proposition*, I must enter into details, and can appeal for proof to recognised and eminent writers on this subject.

“The free carbonic acid, which alkaline mineral waters absorb, renders them bright and sparkling, and gives them an agreeable flavour; although it does not impart to alkaline waters their distinguishing medical properties, it is a very useful auxiliary; it deprives them of their disagreeable saline or alkaline taste, and imparts a pleasant acid flavour, so as to render them fit for table; it facilitates their digestion, and converts them into light hygienic waters; whilst without carbonic acid they are heavy and unpleasant. We may add that they sooner satisfy thirst.

“We should not be indifferent as to whether a mineral water is effervescent or not, and, *cæteris paribus*, should give a preference to an acid gaseous one.” (Pétrequin and Socquet, “Treatise on Mineral Waters,” page 183.)

Copying from these writers, I give the proportion of carbonic acid gas contained by the Waters of Vichy in common use:

VICHY SPRINGS.

Hôpital, 1.067; Grande-Grille, 0.908; Lardy, 1.750.

VALS SPRINGS.

Précieuse, 2.281; Désirée, 2.145; Rigolette, 2.095.

(Analysis of M. Bouis, chemist of the Academy of Medicine, reported by M. Gobley, 30 June, 1864.)

These figures have a very important bearing on this question, as I can easily demonstrate:

“The alkaline Water of St. Albans has a different effect, according as it is more or less deprived of its *carbonic acid gas*; thus, during a storm, the gas be-

coming less compressed, escapes in large quantity, and has thus the effect of diminishing the quantity of acid in the water, of rendering it more saline, and of imparting a brackish taste, so that the stomach does not bear it so well." (Nepple, "Med. Journal of Lyons," 1843, iv. 34.)

Dr. Lucas observed the same fact at Vichy: "During a storm the Waters of Vichy should be taken with caution, for they are then difficult of digestion, and produce inconvenient swelling of the stomach." (Lucas.)

"Alkaline Waters especially owe their digestive properties to the carbonic acid with which they are more or less saturated, to the considerable proportion of bicarbonate of soda they contain, as well as the bicarbonates of magnesia and lime and some alkaline salts." (MM. Pétrequin and Socquet.)

I intend to examine *seriatim* the action of these three substances, and have drawn up a *comparative table*, which will convey, at a glance, *the marked characteristics of the Vals Waters*.

VICHY WELLS.

	HÔPITAL.	LARDY.	GRANDE-GRILLE.
Bicarbonate soda.....	5.150	4.460	4.900
„ magnesia...	0.330	0.084	0.065
„ lime.....	0.661	0.610	0.107
	0.991	0.694	0.172

VALS WELLS.

	PRÉCIEUSE.	DÉSIRÉE.	RIGOLETTE.	ST. JEAN.
Bicarbonate soda.....	5.940	6.040	5.800	1.480
„ magnesia...	0.750	0.900	0.259	0.120
„ lime.....	0.638	0.571	0.259	0.310
	1.380	1.471	0.518	0.430

The *bicarbonate of soda*, which predominates and is met with in such great abundance in the *Waters of Vals*, must be looked upon as the *essential element of their action*.

The therapeutical properties of this alkali, its direct and powerful action on the phenomena of digestion, and particularly on the gastric pancreatic and biliary secretions, are too well known to medical men for me to enter into fuller details; I shall content myself by quoting a *formula* first promulgated by the learned authors of the "Practical Treatise on Mineral Waters," p. 4 :

"The alkalis contained in mineral waters only preserve their special therapeutical virtues as alkalis, when they are combined with carbonic or silicic acid : in all other combinations their virtues are almost completely lost."

The springs *Précieuse*, *Désirée* and *Saint Jean* are rich in *magnesia* and *bicarbonate of lime*.

The utility of these two substances has been demonstrated by Patissier :

"Mineral waters with a liberal proportion of carbonates of lime and magnesia are in general well borne, and may be drunk many times a day ; they are in a word very agreeable to the stomach."

"*Carbonate of magnesia* is preferable to magnesia in cases of gastric derangements, anorexia, and acute eructations, on account of the disengagement of carbonic acid." (Orfila.)

"*Carbonate of lime* in small doses, as it is held in solution by an excess of carbonic acid, is converted into a *bicarbonate*, and acts on the stomach like the bicarbonate of soda, to which we must give the first

place amongst the excitants of digestive actions.” (Dupasquier.)

“The carbonate of magnesia, united with that of lime, is most useful in chronic affections of the biliary organs ; in pyrosis, bulimia, and chronic abdominal irritation.” (Patissier.)

The proportion of *salts of lime and magnesia* modifies and tones down the action of the Waters of Vals, and renders them light, pleasant, and easy of digestion. Now the proportions of the salts of magnesia and lime found in the springs *Précieuse*, *Désirée*, and *Saint Jean* give them a marked superiority over the Waters of Vichy.

In the Waters of *Précieuse*, *Désirée*, *Saint Jean*, and particularly *Rigolette*, the carbonate of iron united with manganese exists in sufficient quantity to counteract general debility and restore the vital powers, and here a question of the highest possible importance to the practitioner comes under our notice :

“Whilst as a general rule iron exists in small proportions in certain mineral waters, yet its medical properties are very characteristic ; all medical inspectors are agreed that ferruginous preparations are much less beneficial than chalybeate waters taken at the wells themselves.

“To what cause can we assign the therapeutical powers of a water which possesses only one or two centigrammes of a mineral in a bottle ? We believe that we must partly attribute it : 1st, to the extreme division in which the salts of iron exist ; 2nd, to the excess of carbonic acid in which they are blended.” (Pétréquin and Socquet, p. 225.)

I must now mention a well-known fact: many chalybeate mineral waters which have not a *low temperature*, or do not possess an *excess of carbonic acid*, undergo marked *deterioration by transport*.

The salts of iron accumulate on the sides of the bottles, or *form flocculent deposits in them*, and the therapeutical effects obtained at a distance are very different from those recorded at the springs by medical observers.

From *this standpoint* I must now examine the Waters of Vals and Vichy:

VICHY SPRINGS.

Hôpital	Temp. 30° (86° F.)	Iron 0.006	Carbonic acid 1.067
Grande-Grille	„ 40° (104° F.)	„ 0.004	„ 0.908
Lardy	„ 23° (73° F.)	„ 0.031	„ 1.750

VALS SPRINGS.

Saint Jean...	Temp. 13° (55.4° F.)	Iron 0.006	Carbonic acid 0.425
Précieuse ...	„ 13° (55.4° F.)	„ 0.010	„ 2.218
Désirée	„ 13° (55.4° F.)	„ 0.010	„ 2.145
Rigolette ...	„ 13° (55.4° F.)	„ 0.024	„ 2.095

From this table it will be seen that the waters from the spring Lardy contain more iron than any of the Vals Waters, but the import of this fact is not of much value, as we may easily learn from the teaching and deductions of learned writers on the subject of hydro-therapeutics.

“The proportion of free carbonic acid, as well as its degree of fixity, is of the greatest possible importance in all mineral waters, since the iron is held in solution by it, and the metal deposits in proportion as the gas escapes.” (Herpin de Metz.)

“It is certain that the combination of iron with crenic ($\text{C}^{24} \text{H}^{12} \text{O}^{16}$) or carbonic (CO^2) acid imparts

an important modification to this metal, increasing its action and rendering its digestion easier. It is also probable that the salts and other principal constituents are rendered easier of assimilation by this fact." (Patissier "Report, 1841," p. 46.)

"The best *vehiculum* for iron and manganese in the organism is carbonic acid." (Tampier, "Report on the Waters of Condillac.")

"We believe that the association of *bicarbonate of lime* with the iron contributes very much to its *chalybeate effect*." (Pétrequin and Socquet, p. 102.)

Without any comment on my part, I may *leave intelligent readers to draw their own conclusions from these quotations*.

Arsenic and iodine have been tested in the Waters of *Saint Jean, Désirée, and Rigolette* by M. Bois. MM. Henri, Brun, Dupasquier, Dorvault, etc., obtained similar results. M. Chevalier is the only chemist who found copper in the Vals Springs. The skilful chemists who analysed them before and after him have not discovered an atom of this element. *Arsenic is a powerful medicine*, and waters containing the salt have a special recognised action. M. Dubois of Vichy assures us, the *arsenite of soda* is a most powerful alterative when it exists in infinitesimal solution. Barthémy and Boudin praise it as an anti-periodic in neuralgia and fevers, and I need hardly tell English practitioners that Fowler regards it as a *specific in skin diseases*, rheumatism, syphilis, etc. Bertrand and the illustrious Thénard found traces of this salt in the Waters of Mount Doré and believe that the waters are thus endowed with a potent action.

The utility of *iodine* is incontestable. "Our *materia medica* does not possess a more powerful alterative than this metalloid, for the numerous group of diseases characterised by lymphatic swellings; and it cannot be denied that it is really efficacious in the *scrofulous diathesis*." (Trousseau and Pidoux, "Therapeutics," t. i. p. 257.)

I am not about to discuss a question of the efficacy of *arsenic* and *iodine* in infinitesimal doses, as I believe that a mineral water is useful, in the majority of diseases, owing to the assimilation at one time of all the mineral salts.

In considering the virtues of the Vals Waters, I must not omit *chloride of sodium*, which has an influence, in small doses, on digestion (Boussingault), on the blood (Denis), and on which M. Bouchardat has thus written: "Chloride of sodium is of the utmost importance in the constitution of the blood; it contributes the necessary degree of density for the phenomena of endosmosis continually occurring in animals. Thus great injury would result from its absence, as there are few salts to take its place." (Bouchardat "Journal," 1854, p. 296.)

Chloride of sodium, if given in moderate doses, is absorbed and taken into the system: once introduced, it exercises a remarkable action on nutrition, as the interesting experiments of M. Boussingault prove. ("Académie des Sciences," Nov., 1846.)

According to this celebrated agriculturist, milch cows cannot exist exclusively on potatoes, unless about seventy grammes of sea-salt are given daily.

Similar effects have been observed in the human being.

“Chloride of sodium is eminently digestive. Taken in small doses it increases the acid secretion of the stomach.” (Herpin de Metz, “Treatise on Mineral Waters,” p. 204.)

M. Poggiale (“Chemical Annal.,” 1848) has demonstrated its precise action on the globules of the blood.

“Chloride of sodium, taken into the circulation, exercises a powerful influence on the transformation of tissue; this action manifests itself by increasing mucous secretion, especially of the intestines, and by increased renal activity. The urine is then more abundant and loaded with the principal solid constituents.” (Herpin, *loc. cit.*, p. 143.)

One of the most celebrated Vichy Inspectors, the venerable Prunelle—as just a judge as an accomplished physician—considered the Waters of Vals much superior to those of his own station.

I have preserved with a reverent love the marked proofs he gave me of his sympathy and assistance.

This illustrious practitioner sent to Vals many patients suffering from long-standing, obstinate, and serious diseases, so that their vital powers might be restored, and their economy rescued from the state of confirmed atony into which it had fallen.

I believe I have satisfactorily proved that the *Waters of Vals are richer in minerals, lighter, and easier of digestion*, than those of Vichy; though I grant that the latter resemble in some respects the Vals Waters, and have the same therapeutical indications.

What is true of remedies, is true of food. That which the stomach most easily digests—all things

being equal—is the best, and hence I claim a *superior efficacy for the Vals Waters*.

More facile pens than mine might dilate on the medical properties, resources, and advantages of the Vals Waters ; but what I lack in eloquence, I make up for in my sincerity. I have now passed the “sere and yellow leaf,” and Time has laid his hand upon me, tinging my hair with grey, and toning down all youthful enthusiasm, but before retiring from active work, I feel it my duty to direct the attention of my medical brethren to the special advantages of the Vals Waters.

I think my words should have some weight, as they are the well-matured and conscientious opinions of a man who has been in medical practice for fifty years, thirty of which were spent in testing the beneficent powers of Nature in the cure of obstinate diseases, at the Springs of Vals.

Showing the results of an Analysis made in the Laboratory of the Academy of Medicine, by

M. OSSIAN HENRI.

COMPONENT PARTS IN A 1000 GRMS.		SAINT JEAN	PRÉCIEUSE	DÉSIRÉE	RIGOLETTE	MAGDELEINE	1. Sedative Waters... St. Jean. 2. Laxative " " Désirée, Précieuse. 3. Alterative " " Rigolette, Magdeleine.
		13° 0.4250	13° 2.218	13° 2.145	13° 2.095	13° 2.050	
Bicarbonate of lime.....		0.3100	0.630	0.571	0.259	0.520	
" " magnesia.....		0.1200	0.750	0.900	0.259	0.672	
" " soda.....		1.4800	5.940	6.040	5.800	7.280	
" " potass		0.0400	0.230	0.263	0.265	0.255	
" " lythia		Very percept.	Very percept.	Very percept.	Very percept.	Very percept.	
Protoxide of iron and manganese		0.0060	0.010	0.010	0.024	0.029	
Arsenite of soda		Very percept.	Trace	Percept.	Percept.	Percept.	
Iodine		Indic.	Indic.	Percept.	Percept.	Percept.	
Chloride of sodium and potassium		0.0600	1.080	1.100	1.200	0.016	
Sulphate of soda		0.0540	0.185	0.200	0.200	0.235	
" " lime		0.0700	0.185	0.200	0.200	0.235	
Alumen		0.0110	0.060	0.058	0.060	0.097	
Organic matter		Ind.	A little	Trace	Trace	Small	
		2.5760	8.888	9.142	7.826	9.248	
							1.30
SOURCE DOMINIQUE	Acid sulphuric	{ Sulphuric acid Silicic " " Sesqui oxide Arsen " " of iron Phosphate " " Sulph. " " Sulphate of lime Chloride of sodium Organic matter }					SOURCE DOMINIQUE
	" arsen.						
	Sesqui oxide of iron						
	Lime and soda						
	Silicic acid						
	Chlorine						
	Phosphoric acid ...	{ 1.75 thus grouped 1.75 thus grouped }					0.44
	Organic matter.....						
							1.74

MINERAL WATERS OF VALS (ARDECHE),

COMPARED WITH THE

Mineral Waters of Vichy

(ALLIER).

“We have had the opportunity of examining, tasting, and applying in practice some water from one of the spring of Vals. The particular specimen which fell under our notice was from the spring named Magdeleine ; but there are five others, St. Jean, Précieuse, Désirée, Rigolette, and Dominique, derived from the same locality. The last named differs completely from the others. It contains 1.33 parts of free sulphuric acid to the litre, with a very appreciable quantity of arsenic in combination with iron. It is said to have been found useful in intermittent fever, as well as in scrofulous, syphilitic, and skin affections. From its composition it would seem well deserving of trial in such disorders. The other springs differ amongst themselves in the proportion of contained salts ; but they agree in the presence of free carbonic acid, bicarbonate of soda, potash, lime, magnesia, iron, chloride and sulphate of soda and lime, and silicate of alumina. Their properties are therefore akin to those of the Vichy sources. The amount, however, of free carbonic acid and of iron is larger than in the last named. Contrasting the Magdeleine of Vals with the Célestins of Vichy—each, in general terms, the strongest and most useful of its kind,—we find the former more effervescent, containing about double the quantity of carbonic acid, and therefore more agreeable to the taste. But it is especially in the nature and proportion of the mineral ingredients that the Vals claims the superiority, more particularly in those limited quantities to which various considerations (including economical ones) restrict the use of such mineral waters when imported into places far from their source. The bicarbonates of the alkalies and alkaline earths far exceed those of the Célestins, rising to 1 and $1\frac{1}{2}$ for the soda base, 7 for the potash, $1\frac{1}{4}$ for the lime, 2 for the magnesia. The chloride of sodium of the Vals is only from $\frac{1}{3}$ to $\frac{1}{4}$ of the Vichy water. The ferruginous constituent of the Vals is stated at 7 times that of the Vichy. To sum up, the Magdeleine appears greatly to surpass the Célestins in the quantity and quality of its alkaline and alterative ingredients, and claims a far greater tonic power.”—Extract from the *Lancet*.

“For the last three years I have largely prescribed the Vals Waters. In certain forms of dyspepsia—in cases of troublesome and recurring boils, depending either upon mal-assimilation of the food, poverty of the blood (anæmia), or certain uterine irregularities, in liver affections, and in kidney affections ; in all these maladies and many others where I have employed the Vals Waters, the results have been most satisfactory. In gout it is especially that I have largely prescribed these Waters, and I think they are not sufficiently known.”—JAMES C. DICKINSON, M.R.C.S. Eng., on *Suppressed Gout*.

“The Vals Water must be preferred when used away from the Springs.”
—S. KING, M.D.